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MINUTES

ADVISORY COMMITTEE FOR BIOLOGY AND MEDICINE

TWENTY THIRD MEETING

Held at

ATOMIC ENERGY COMMISSION

Washington, D. C.

September 8-9, 1950

	DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW
RGY	SINGLE REVIEW AUTHORIZED BY: CLASSIFICATION RETAINED 1. CLASSIFICATION RETAINED 2. CLASSIFICATION CHANGED TO: 3. CONTAINS NO DOE CLASSIFIED INFO 4. COORDINATE WITH: DATE: DATE: 5. CLASSIFIED INFO BRACKETED 6. CLASSIFIED INFO BRACKETED
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MINUTES

Advisory Committee for Biology and Medicine September 8-9, 1950

The twenty third meeting of the Advisory Committee for Biology and Medicine was held on Friday and Saturday, September 8 and 9 at the Atomic Energy Commission building in Washington, D. C.

Attendance

ATTENDANCE

Members of Committee

Dr. E. W. Goodpasture, Vice-Chr.

Dr. D. W. Bronk
Dr. E. A. Doisy
Dr. E. C. Stakman

Dr. Curt Stern Dr. J. T. Wearn

Dr. Alan Gregg was unable to be present.

Staff of AEC and Division of Biology and Medicine Mr. Gordon Dean Dr. Shields Warren

Mr. John A. Derry Dr. Walter D. Claus

Dr. Charles L. Dunham

Dr. Paul B. Pearson

Dr. George A. Hardie

Dr. L. W. Tuttle

Dr. Max R. Zelle Dr. Wm. F. Bale

Dr. N. E. Tolbert

Mr. Harry L. Bowman

Mr. Joe Deal

Mr. John V. Lannon

Mr. W. E. McGuirk

Mr. Beverly Thompson

Mr. R. A. Tumbleson

Mrs. F. R. Montgomery

Visitors

Dr. N. Woodruff, Oak Ridge O. O.

Dr. P. Owen, N.R.C.

PRIVACY ACT MATERIAL REMOVED

FRIDAY, SEPTEMBER 8, 1950

The Vice-Chairman convened the meeting at 9:40 a.m.

Minutes of Meeting of May 12-13, 1950 The first order of business presented to the Committee by the Chairman was a discussion of the minutes of the meeting held at the AEC on May 12-13, 1950. Upon a motion by Dr. Bronk and seconded by Dr. Wearn, the minutes were approved unanimously.

Report on Support of Research Projects

Report on Support of Research Projects The following projects in biology, medicine, and health physics, that had been selected since the previous meeting by the Division of Biology and Medicine to receive support by the Atomic Energy Commission were studied by the Committee. Dr. Warren commented that the number of 83 approved contracts may seem to be high, however, it did not represent undue acquiescence in requests, but rather it is a reflection of the fact that there were certain specific holes in the biological, medical and health physics programs that needed to be filled and the Division had been working hard to interest various investigators.

Biology Division

(1) Yale University (Contract No. AT(30-1)-568- Dr. E. C. Pollard - "Irradiation of Viruses and Large Molecules" \$19,440.

Personnel
Equipment & Supplies
Overhead
Other

\$16,500 1,000 500

Total

(Approval of renewal of contract for period Jun 1, 1950 to May 31, 1951. Previous contract June 1, 1949 to May 31, 1950 - \$12,400.

(2) Oregon State College - Drs. V. H. Cheldelin and A. E. Christensen - "Vitamin-Amino Acid and Carbo-hydrate Amino Acid Interrelationships, Using Isotopic Tracers" - \$9499.

PRIVACY ACT MATERIAL REMOVED

Personnel \$6,796
Equipment & Supplies 1,600
Overhead too

Total
(Approval of transfer to AEC and renewal of ONR contract NR-125-830 for period July 1, 1950 to June 30, 1951. Previous contract July 1, 1949 to June 30, 1950 - \$14,000).

(3) University of Texas - Dr. Jack Meyers - "Biological Accumulation of Inorganic Materials by Algae" - \$14,202.

Personnel \$11,400 Equipment & Supplies 1,500 Overhead 250

(Approval of transfer to AEC and renewal of ONR contract NR-130-742 for period July 1, 1950 to June 30, 1951. Under ONR contract FY 1948 - \$6600; FY 1949 - \$14,300).

(4) Texas A & M College (Contract No. AT(40-1)-291) - Dr. R. Reiser - "Metabolism of Glycerides" - \$10,800.

Personnel \$8,000
Equipment & Supplies 2,500
Overhead 300
Total

(Approval of renewal of contract for period July 1, 1950 to June 30, 1951. Previous contract July 1, 1949 to June 30, 1950 - \$12,800).

(5) U. S. Department of Agriculture "Soil Management and Crop Production" - \$185,000.

 Personnel
 \$135,832

 Utilities & Services
 36,650

 Equipment & Supplies
 24,218

 Travel
 2,000

 Other
 1,300

 \$200,000

 Less unexpended funds
 15,000

 \$185,000

(Previous contract FY 1949 - \$348,998; FY 1950 - \$200,000).

(6) Southern Research Institute, Birmingham, Alabama - Dr. Howard E. Skipper - "Body Retention of Carbon 14" \$17,979.

Personnel
Equipment & Supplies
Overhead

\$13,039

Other

PRIVACY ACT MATERIAL REMOVED

Total
(Approval of transfer to AEC and renewal of ONR contract NR-171-642 for period July 1, 1950 to June 30, 1951. Previous contract under ONR FY 1948 - \$14,749; FY 1949*- \$18,060).

(7) University of California (Contract AT(11-1)-34-I)
Dr. Max Kleiber - "Metabolism Studies and Biological Syntheses with Large Animals" - \$30,240.

Personnel
Equipment & Supplies
Overhead

\$13,000 15,000

Total

(Approval of renewal of contract for period July 1, 1950 to June 30, 1951. Previous contract for period July 1, 1949 to June 30, 1950 - \$16,000).

(8) Amherst College - Dr. Harold H. Plough - "Research in Radiobiology & Biochemical Genetics" - \$16,265.

Personnel
Equipment & Supplies
Overhead
Other

\$11,880 2,630 550

Total

(Transfer to AEC and renewal of ONR Contract NR 164-879 for period July 1, 1950 to September 14, 1951. Previous contract under ONR 312,315).

(9) University of Chicago (Contract AT(11-1)-45) Dr. E.M.K. Geiling - "Biosynthesis of Radioactive Drug Compounds" \$50,000.

Personnel Equipment & Supplies Overhead \$32,Li00 16,600

1.,000

Other

Total

(Approval of renewal of contract for period July 1, 1950 to June 30, 1951. Previous contract for period July 1, 1949 to June 30, 1950 - \$50,000).

(10) University of Missouri - Dr. J. Levitt - "Translocation of Mineral Substances in Plants" - \$2,530.

Personnel \$1,650
Equipment & Supplies 400
Overhead Other 300

PRIVACY ACT MATERIAL REMOVED

Total

(Approval of transfer to AEC and renewal of ONR contract NR-122-725 for period July 1, 1950 to June 30, 1951. Previous contract under ONR - \$1753).

(11) Oregon State College - Dr. Joseph S. Butts - "The Mode of Action of 2,4-Dichlorophenoxyacetic Acid (2,4-D) and Isopropyl-N-Phenyl Carbamate (IPC)" - \$8,290.

Personnel \$6,136
Equipment & Supplies 1,275
Overhead Other 265

(Approval of transfer to AEC and renewal of ONR contract NR-171-786 for period July 1, 1950 to June 30, 1951. Previous contract under ONR - \$11,500).

(12) Purdue University - Drs. Henry Koffler and P. A. Tetrault "The Use of Radioactive Isotopes in Studying Mold Metabolism with Emphasis on the Assimilatory Mechanisms of Penicillium Chrysogenum" - \$4,250.

Personnel \$3,100
Equipment & supplies 750
Other \$4,00

(Approval of transfer to AEC and renewal of ONR contract NR-130-812 for period of June15, 1950 to June 14, 1951. Previous contract under ONR - \$4,558).

(13) Oklahoma Λ & M College (Contract LT(11-1)-28) - Dr. A. Eisenstark - "Cystogenic Effects of Irradiation" - \$3,327.

Personnel \$2,580
Equipment & Supplies 300
Overhead
Other 200

Total

(Approval of renewal of contract for period June 1, 1950 to May 31, 1951. Previous contract June 1, 1949 to May 31, 1950 - \$5,740.)

(14) University of North Carolina (Contract AT(40-1)-265)
Dr. W. C. Gregory - "Peanut Seed Irradiation Project"
317,085

Personnel
Equipment & Supplies
Overhead
Other

\$10,800 4,500 1,785

PRIVACY ACT MATERIAL REMOVED

Total
(Renewal of contract for period July 1, 1950 to June 30, 1951. Previous contract for period July 1, 1949 to June 30, 1950 - \$16,950.)

(15) U. S. Department of Interior, Fish & Wildlife Service Dr. W. A. Chipman - "The Accumulation of "adioactivity in Marine Invertebrate Animals" - \$19,500.

Personnel \$18,850
Equipment & Supplies \$1,250
Other \$1,200
Total \$25,000
Less unexpended funds 5,500
\$19,500

(Renewal of contract for FY 1951. Previous contract for FY 1950 - \$24,500).

(16) University of Illinois (Contract No. AT(11-1)-67-II)
Drs. B. C. Johnson & H. D. Carter - "Metabolism of Vitamins" - \$5,400.

Personnel 32,640 Equipment and Supplies 1,465 Overhead 200

Total
(Renewal of contract for period October 1, 1950 to September 30, 1951. Previous contract for period October 1, 1949 to September 30, 1950 - \$4,800).

(17) State College of Washington (AT(45-1)-213-I) Dr. 0. Biddulph - "The Absorption, translocation and disposition of various elements in Plants" - \$2,520.

Personnel \$2,520 (Approval of additional funds to amount previously approved; Contract April 1, 1949 to March 31, 1951, \$13,600).

(18) Johns Hopkins University - Drs. Robert Ballentine & Wm. D. McElroy - "The Metabolism and Functional Significance of Cobalto-Protein" - \$6,507.

Personnel Equipment & Supplies Overhead Total 34,000 2,025

(19) University of Texas - Dr. J. W. Foster - "Mold Metabolism" - 34,968.

PRIVACY ACT MATERIAL REMOVED

Personnel
Equipment & Supplies
Overhead
Other
Total

33,600 1,000 0

(20) University of Southern California - Dr. H. J. Deuel, jr.
"The Effect of Radiation on Intestinal Absorption and
Metabolism of Fats and Carbohydrates" - \$7,181.

("pproval of additional \$7,181 to sum of \$23,382
Previously approved).

Equipment & Supplies

\$7,181

(21) Polytechnic Institute of Brooklyn - Dr. A. D. McLaren - "The Effect of Ultraviolet Radiation on Enzymes and Viruses" - \$15,120.

Personnel
Equipment & Supplies
Overhead
Other
Total

\$10,800 2,250 950

(22) Howard University - Dr. Louis A. Hansborough - "The Effect of Labelling the Germ Cells on Fertilization and Development" - \$4,076.

Personnel \$2,500
Equipment & Supplies 1,426
Overhead 150
Total

Yale University - Dr. Norman H. Giles - "Investigations of the Mechanism of "adiation-Induced Chromosomal Rearrangement in Tradescantia and Gene Mutations in Neurospora" \$39,906.

Personnel \$11,100; Equipment & Supplies \$25,850; Overhead \$2,956, Total \$39,906.

DOE ARCHIVES

(24) U. S. Department of Agriculture - Drs. H. R. Bird, P. B. Pearson (Collaborator), L.W. Tuttle(Collaborator) "Metabolism of the Embryo and the Effect of Internal Radiations" - \$30,680.

PRIVACY ACT MATERIAL REMOVED

Personnel \$21,780 Equipment & Supplies \$3500 Other \$100 Total \$330,680

(25) University of Wisconsin - Dr. Paul H. Phillips - "The Long Time Effects of Intermittent Radiations on Dogs" - \$28,200.

Personnel
Equipment & Supplies
Overhead
Other
Total

616,400 7,100

(26) University of Arizona - Drs.Wallace Fuller & W. T. McGeorge - "Utilization of Phosphorus from Biological Material" - 32,460.

Personnel	ಫ1,800
Equipment & Supplies	510
Other	150
Total	\$2,460

(27) Stanford Research Institute - Drs. R. Pencharz and D. Singman - "An Experimental Study of the Direct and Indirect Effects Produced by X-Irradiation of the Spleen" - \$13,500.

Personnel \$8,800 Equipment & Supplies 4,700 Total \$13,500

(28) South Dakota State College - Drs. Alvin L. Moxon & E.I. Whitehead - "Metabolism of Selenium and Sulfur in Plants " - \$7,050.

Personnel \$3,400 Equipment & Supplies 3,465 Other 185 (29) Oklahoma A & M College - Dr. R. M. Chatters - "Effect of Radiation on Plant Growth" - 34,752.

Personnel Equipment & Supplies Overhead Other 1,000 450

PRIVACY ACT MATERIAL REMOVED

(30) University of Utah - Drs. L. P. Gebhardt & Dr. L. T. Samuels - "The Use of Labelled Phosphorous in the Study of Nerve Tissue Metabolism During Invasion of Neurotropic Viruses" - 38,543.

Personnel
Equipment & Supplies
Overhead
Total

3,660

(31) University of Michigan - Dr. Clement L. Markert - "Mutagenic Effects of Different Types of Radiction" \$3,240.

Personnel
Equipment & Supplies
Overhead
Total



(32) University of Missouri - Drs. Donald W. Barton and L. J. Stadler (Advisor) - "Cytogenic Study of the Effects of Radiation on the Differentiated Chromosomes of the Tomato" - \$4,830.

Personnel
Equipment & Supplies
Overhead
Other
Total



(33) University of Oklahoma Research Institute - Drs. L. M. Rohrbaugh & L. Rice - "The Translocation of Tagged 2, 4-D and Other Growth Regulators in Plants in Light and in Darkness" - \$5,789.

Personnel
Equipment & Supplies
Overhead
Other

\$3,360 1,800 200

Total

(3h) University of Oklahoma - Dr. R. A. Goff - "The Effects of Isotopic Irradiation of Embryonic Capillaries" \$1,923

Personnel Equipment & Supplies Overhead Other Total



PRIVACY ACT MATERIAL REMOVED

University of California, Citrus Experiment Station - Drs. F. M. Turrell, F. A. Gunther, R. L. Metcalf and R. B. March - "Use of Radioactive Tracers in Studies of the Mode of Action of Organic Insecticides" - \$2,740.

Equipment & Supplies

(36) University of Utah - Drs. John D. Spikes & R. W. Lumry "Studies of Photosynthetic Processes in Cell-Free Preparations" - \$23,832.

Personnel Equipment & Supplies Overhead Other Total



(37)University of Minnesota - Drs. W. R. Petersen, Allan Hemingway and Lew Mix - "A Study of Milk Formation by the Use of Radioactive Carbon Compounds" - \$8,640.

> Personnel Equipment & Supplies Overhead Total

\$2,688 5,312

(38) University of Delaware - Dr. Arnold M. Clark - "Radiation Effects Upon Haploids and Diploids of Habrobracon" -

Personnel Equipment & Supplies Overhead Other Total



Yale University - Dr. David Bonner - "The Relationship of Genes to Biochemical reactions in Neurospora" - \$6,415.

Personnel Equipment & Supplies Overhead Total

\$3,940

Medicine

(1) University of California (Contract No. AT(11-1)-34-II)
Dr. Herman Becks - "Metabolism of Radioactive Fluorine
(Dental)" - \$5,700.

Personnel Equipment

Supplies
Overhead
Other \$4,200 800

PRIVACY ACT MATERIAL REMOVED

Total
(Renewal of contract for period July 1, 1950 to
June 30, 1951. Previous contract July 1, 1949 to
June 30, 1950 - 35,000).

(2) University of Chicago - Dr. H. S. Anker - "Investigations of the Mechanisms of Antibody Synthesis by the Tracer Technique" - 3345.

Overhead (Approval of additional funds to \$4300 previously approved)

(3) University of Michigan (Contract AT(11-1)-33) - Dr.
Reuben Kahn - "Universal Serological Reaction following Irradiation" - \$23,000.

Personnel \$20,000
Equipment & Supplies 2,700
Overhead 300
Total

(Renewal of contract for period July 1, 1950 to June 30, 1951. Previous contract July 1, 1949 to June 30, 1950 - \$23,750).

(h) Henry Ford Hospital (Contract No. AT(11-1)-40 - Dr. F. W. Hartman - "Chemical Sterilization of Blood and Plasma with Nitrogen Mustard" - \$12,900.

Personnel \$9,900 Equipment & Supplies 3,000 Total 312,900

(Renewal of contract for period July 1, 1950 to June 30, 1951. Previous contract July 1, 1949 to June 30, 1950 \$12,900).

(5) University of Colorado (Contract Lt(29-1)-787)
Dr. Theodore Puck - "Study of Normal and RadiationInduced Mechanisms in Biological Systems which Permit
Molecular Analysis" - 336,400.

Personnel 25,100
Equipment & Supplies 9,300
Other 2,000
Total 336,400

PRIVACY ACT MATERIAL REMOVED

(Renewal of contract for period July 1, 1950 to June 30, 1951. Previous contract for July 1, 1949 to June 30, 1950 - 339,000).

(6) Boston University - Dr. B. R. Lutz - "Effect of Radiation on the Functions of Small Blood Vessels of the Hamster and the Frog" - \$5,000.

Personnel

Equipment & Supplies
Construction
Overhead
Other

Total

Total

(Approval of additional \$5,000 to \$30,000 previously approved).

(7) University of Georgia (Contract ΛŢ(40-1)-232) Dr. S. Λ. Singal - "The Effects of Nutritional Deficiencies on the Synthesis of Phospholipids and Nucleoproteins in the Rat" - \$2,600.

Equipment & Supplies \$2,600 (Approval of additional \$2,600 to \$5,600 previously approved).

(8) University of Oregon (Contract AT-45-1-226) Dr. P.L. Risley-"Localization of Radioactive Isotopes in Germ Cells and Reproductive Tissues during Quiescence and Activation" - \$14,082.

Personnel
Equipment & Supplies
Overhead
Other
Total

(Renewal of contract for period July 1, 1950 to June 30, 1951. Previous contract for period July 1, 1949 to June 30, 1950 - 314,000).

(9) Ohio State University - Dr. J. L. Morton - "Investigations of the Therapeutic Use of Cobalt-60" - 325,000.

Personnel 6,350
Equipment & Supplies 3,300
Hospital costs 11,000
Overhead 350

PRIVACY ACT MATERIAL REMOVED

Total
(Transfer to AEC and renewal of ONR contract NR-171-851 for period July 1, 1950 to June 30, 1951. Previous contract under ONR 325,331).

(10) Washington University (Contract AT(11-1)-55) Dr. Frank J. Dixon - "Investigations of the Effects of Agents Used in the Treatment of Cancer, X-ray and Nitrogen Mustards on Immunologic Response to Experimental Animals" -\$18,200.

Personnel \$11,450
Equipment & Supplies 6,000
Other 7
Total \$18,200

(Renewal of contract for period Sept. 1, 1950 to Aug. 31, 1951. Previous contract for Sept. 1, 1949 to Aug. 31, 1950 - \$10,500.)

(11) Reed College (Contract AT(45-1)-227 - Dr. F. P. Hungate - "Application of "adioactive Tracers in Field of Cellular Metabolism" - 37,500.

Personnel
Equipment & Supplies
Overhead
Other

Total
(Renewal of contract for July 1, 1950 - June 30, 1951.
Previous contract for July 1, 1949 - June 30, 1950
37,500.)

35**.**000

100

(12) Reed College (Contract AT(45-1)-229) - Dr. A. H. Livermore "Biological Synthesis of the Peptide Bond" - \$9,400.

Personnel
Equipment & Supplies
Overhead
Other

2,500

Total

(Previous contract for July 1, 1949 to June 30, 1950 - 39,400. Renewal for period July 1, 1950 to June 30, 1951)

(13) Reed College (Contract AT(45-1)-230) - Dr. Arthur F. Scott - "Radiation Monitoring Training Course" - \$4650.

Personnel
Equipment & Supplies
Overhead
Other

\$2,400 800 1,150

PRIVACY ACT MATERIAL REMOVED

Total

(Previous contract for July 1, 1949 to June 30, 1950 \$11,716).

- (14) Western Reserve University (Contract W-31-107-ENG-78)
 Dr. Hymer I. Friedell "Study of Biologically Toxic
 Agents with Radioisotopes Criteria for Dosage Toxicity;
 and Studies in Radiction Physics" \$185,091.
 (Final breakdown on budget not available) Renewal
 of contract for period July 1, 1950 June 30, 1951.
- (15) University of Virginia (Contract AT(40-1)-263)
 Dr. Chalmers L. Gemmill "Study of the Effect of Beta
 Radiation on the Distribution of Phosphate in Red
 Blood Cells and in Cardiac Muscle" \$10,000.

Personnel 38,300
Equipment & Supplies 1,550
Overhead 150
Total

(Renewal of contract for July 1, 1950 -June 30, 1951. Previous contract for July 1, 1949 - June 30, 1950 - 311,514.)

(16) The Trudeau Foundation, Drs. Arthur J. Vorwald & F. N. Klemperer - "Biochemical and Clinical Investigations of the Toxicity of Beryllium" - \$50,386.

Personnel
Equipment & Supplies
Overhead
Other
Total
(Previous contract under ONR - 348,247)

(17) Baylor University (Contract AT(12-1)-285) - Dr. Joseph Gast - "Chemistry and Metabolism of some Sulfur Oxides" 35,000.

Personnel \$3,000
Equipment & Supplies 1,750
Other 250
Total 35,000

(Renewal for period of July 1, 1950 - June 30, 1951. Previous contract July 1, 1949 - June 30, 1950 - \$11,753).

(18) American National ded Cross Contract LT(49-1)-448
"Research and Development in the Field of Blood
Fractionation" - 399,200.

PRIVACY ACT MATERIAL REMOVED

Personnel \$90,300 Equipment & Supplies 8,900 Total \$99,200

(approval of additional funds of \$49,200 to \$50,000 previously approved).

(19) Cedars of Lebanon Hospital (Contract AT(Oh-1)-290 Dr. Paul E. Reckers - "Relation of Flavanoid Structures to Radiation Protection" - 32,500.

Personnel \$2,500 (approval of extension of contract for 2 months July 1, 1950 to Aug. 31, 1950. Previous contract for July 1, 1949 to June 30, 1950 - \$17,500)

(20) University of Illinois (Contract No. AT(11-1)-67)-I Dr. Andrew C. Ivy - "Effects of Radiation on Gastric Mucosa" - \$5,940.

Personnel \$2,000
Equipment & Supplies 3,500
Overhead Total

(Renewal of contract for period Oct. 1, 1950 to Sept. 30, 1951. Previous contract for period October 1, 1949 to September 30, 1950 - 34,400).

(21) Presbyterian Hospital (Contract No. AT(11-1)-56)
Dr. R. Gordon Gould - "The Mechanism of CO₂
Fixation" - 37,000.

Personnel

Equipment a Supplies

Total

(Previous contract for September 1, 1949 to Aug. 31, 1950 - \$6,000. Renewal for period Sept. 1, 1950 to Aug. 31, 1951.)

(22) New York Medical College (Contract AT(30-1)-780 Dr. Alfred Copley - "Study of Vascular Factors in Radiation Hemorrhage and Other Hemorrhagic Diatheses in Patients and Experimental Animals" - 31,050.

Equipment & Supplies \$1,050 (approval of additional funds to previously approved amount of \$13,528).

(23) Massachusetts General Hospital (Contract AT(30-1)-730) Drs. Wm. H. Sweet & Bertram Selverstone - "Use of Phosphorus 32 for the Precise Localization of Brain Tumors" - \$11,850.

Forsonnel \$7,723 Equipment & Supplies 2,857 Overhead 325

PRIVACY ACT MATERIAL REMOVED

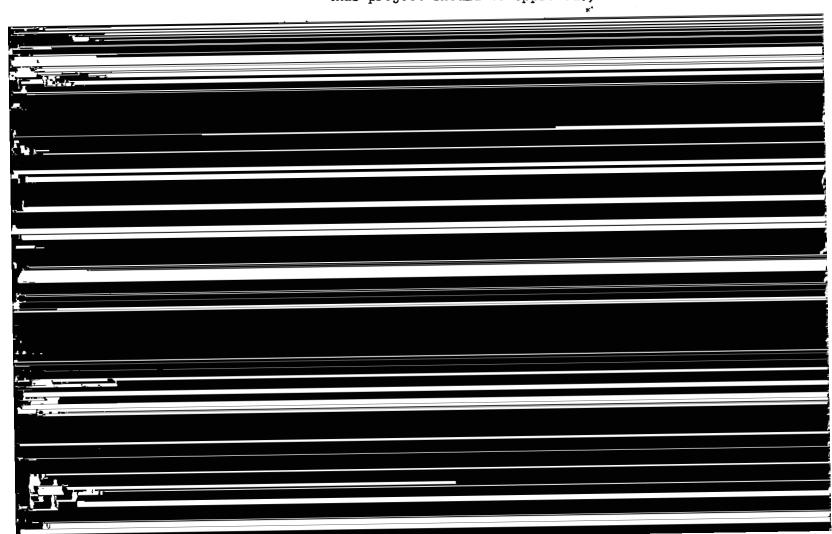
Total

(Renewal of contract for period Aug 1, 1950 to July 31, 1951: Previous contract for period Aug. 1, 1949 to July 31, 1950 - \$11,850).

(24) University of Utah - Dr. John Z. Bowers - "Plutonium Toxicity Project" - \$200,000.

Construction \$110,000 Equipment & Supplies 40,000 Operations 50,000 Total \$200,000

(Dr. Shields Warren discussed the initiation of this project by telephone with members of the Committee and he received their unanimous recommendations that this project should be approved.)



(27) Johns Hopkins University Hospital - Dr. John E.

Howard - "Investigations of the Mechanism of Bone
Deposition and Related Physiological Studies" - 326,106.

Personnel
Equipment & Supplies
Overhead
Other
Total

PRIVACY ACT MATERIAL REMOVED

(28) Vanderbilt University - Dr. W. J. Darby - "A Study of the Absorption and Metabolism of Lipids and Alterations which Occur in Acute Radiation Injury" \$25,000.

Personnel
Equipment & Supplies
Overhead
Other
Total

(29) New York University - Dr. Norton Nelson - "Study of the Particle Size Dependence of Aerosol Retention in the Human Respiratory System" - \$20,736.

Personnel
Supplies
Overhead
Other
Total

(30) Sachem Laboratories, Inc., New Haven, Conn. - Dr. Marvin Botwick - "Research and Development on a Civil Defense Type Blood Typing Kit and Research on a Simplified Cross-matching System" - \$12,324.

Personnel
Equipment & Supplies
Overhead
Other
Total

(31) North Carolina State College - Dr. Donald B. Anderson "Rate of Movement of Organic and Inorganic Compounds in the Tissues of Intact Tree Species" - \$2,335.

Personnel \$300 Equipment & Supplies 1,835 Other 200 Total 32,335

MINUTES

ADVISORY COLSMITTEE FOR BIOLOGY AND MEDICINE

TWENTY THIRD MEETING

Held at

ATOMIC ENERGY COMMISSION

Washington, D. C.

September 8-9, 1950

CLASSIFICATION CANCELLED
AUTHORITY: DOE-DPC
BY R. HAMBURGER, DATE: //1/82

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DOE ARCHIVES

Biophysics

(1) University of Chicago - Dr. Raymond - . Zirkle
"Use of a Microbann of Light Atomic Nuclei for
Raciological Investigations" - .56,646.

Personnel
Equipment & Supplies
Overhead
Other
Total

PRIVACY ACT MATERIAL REMOVED

(Transfer to AEC and renewal of ONR Contract NR-171-256 for period July 1, 1950 to June 30, 1951. Previous contract FY 1948 - 318,086; FY 1949 - 365,662).

(2) University of Washington (Contract AT(45-1)-237)
Dr. P. 4. Church - "Meterological Studies" - 37,960.

Personnel \$7,595

Equipment & Su plies 1,525

Other 1,350

Total \$10,470

Less unexpended funds 2,100

7,370

Overhead

Total
(Renewal for period Aug. 1, 1950 to July 31, 1951.
Previous contract for Aug. 1, 1949 to July 31, 1950 \$16,100.)

(3) University of Washington (Contract AT(45-1)-236 Dr. Robert G. Fleagle - "Meteorological Studies"

(Approval of extension of contract from Aug. 1, 1950 to July 31, 1951 without additional funds. Previous contract for period Aug. 1, 1949 to July 31, 1950 (14,768).

(h) Massachusetts Institute of Technology - Dr. John G. Trump - "Biological "ffects of High-Energy X-rays and Cathode Rays" - \$15,000.

Personnel 38,800
Equipment & Supplies 2,000
Overhead 500
Total

(Transfer to AEC and renewal of ONR contract NR-171-888 for July 1, 1950 to June 30, 1951. Fravious contract under ONR - 514,440).

(5) University of Kansas - Dr. Frank R. Houcker - "Biological effect of Ionizing Radition" - \$31,000 (2 years).

Personnel \$21,500 Equipment & Supplies 6,200 Overhead 1,000

Total

(Transfer to AEC and renewal of ONR contract NR-171-184 for July 15, 1950 to July 14, 1952. Previous contract under ONR \$30,860).

(6) Columbia University (Contract AT(30-1-GEN-70)

Dr. G. Failla - "Desage Determination; Biological Action of Ionizing Radiation; Training Program" 3184,000.

PRIVACY ACT MATERIAL REMOVED

Personnel
Equipment & Supplies
Overhead
Other
Total
Less unexpended funds

127,400
23,300
13,800

For the period function $\frac{40,000}{100,000}$

(Contract renewal for July 1, 1950 to June 30, 1951. Frevious contract FY 1949 - 3277,633; FY 1950 - 3144,000)

(7) Massachusetts Institute of Technology - Dr. Robley D. Evans - Presearch in Applied Radioactivity" - \$128,950.

Personnel 672
Equipment & Supplies 23
Overhead 672
Other 772

672,500 23,500 **DGE** ARCERVALA 2,500

Total
(Transfer to /EC and renewal of ONR Contracts NR-171-645 and NR 171-643 for July 1, 1950 to June 30, 1951. Previous contracts under ONR FY 1948 - 381,999, FY 1949 - 3226,025).

(8) University of Florida (Centract AT(40-1)-267 Dr. A. A. Bless - "Radiation Injury" - 314,375.

Personnel 39,100
Equi ment & Supplies 3,775
Other 1,500
Total 511,375

(Rinewal for July 1, 1950 to June 30, 1951. Previous contract for July 1, 1949 to June 30, 1950 -313,390).

(9) New York University - Bellevue Medical Center Drs. Victor a. whitten & Marion B. Sulzberger 319,440. Title I: "Study of Thorium X in Selected Vehicles Applied to the Skin of Man" and "Study of the Effects of Selected Pure Beta Emitters on the Skin of Man."

Personnel \$15,000
Equi_ment & Supplies 2,200
Overhead Cher 800
Total

(10) Marquette University - Dr. ". A. Anderson - "The Pathologic of Fects of Radicactive Isotopes of Calcium and Strontium on one and Soft Tissue" 313,200.

PRIVACY ACT MATERIAL REMOVED

Personnel	₹8,000
Equipment & Supplies	5,000
Other	200
· Total	313,200

- (11) Idaho State College Dr. Ray J. Davis et al "Ecological and Radiation Background Survey in
 Reactor Testing Area" \$10,000 (No budget breakdown
 available).
- (12) Southern research Institute Dr. Locke white "Improvement in Photoelectric Smoke Penetrometers or Filter Testers" \$14,700.

Personnel 35,000
Equipment & Supplies 4,000
Overhead 1,000
Total

(13) University of "isconsin - Drs. D. Murray Angevine and Jos. L. Lalich - "Development and Application of Historadiography in Melation to the Distribution of Mass and Localization of Plements in Normal and Pathologic Tissues." - \$8,000.

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Proposal Declined

Proposals Declined

- (1) University of Oklahoma Research Institute Dr. V. H. Schnee "Absorption and Assimilation of Radioactive Wastes by Water and Sewage Slimes."
- (2) Oklahoma A & M College Dr. C. K. Whitehair "The Metabolism of Phosphorus in Beef Cattle Using Radio-active Phosphorus-32 as a Tracer \$6,699.
- (3) Oklahoma A & !! College Dr. Wendell R. Krull"Metabolism of Phosphorus by Larval Nematodes \$4,886.
- (h) Baird Associates, Inc. Cambridge, Massachusetts Dr. Bruce H. Billings "Scintillation Counter Development" \$12,000.
- (5) University of Oregon Medical School Dr. Edward S. West "Investigations on Glycine Metabolism in Relation to Glycogenesis" \$6,500.
- (6) New York University Dr. Robert Chambers "The Investigations on the Localized Effects of Radiation on Living Cells."
- (7) University of "ashington Dr. Verno F. Ray "Age Determination Utilizing Carbon-14 Technique" \$32,184.

Dissemination of Information

Dissemination of Information

Dr. Bronk raised the question of the dissemination of information gleaned from the research projects, and laboratories and as well as how the pamphlet "Nuclear Science Abstracts" could be more widdy circulated and be made more useful to investigators.

Dr. Bronk suggested that it might be well to initiate an operational research program through the NRC as to the various types of publications and their relative effectiveness in order to see just what is being accomplished with the dissemination and utilization of scientific information.

The Committee approved of this proposal and of this type of investigation and they will look forward to definite suggestions from Dr. Bronk on how the Committee and the Division of Biology and Medicine may cooperate in this undertaking.

Radioisotope Training Courses

Radioisotope Training Courses

Dr. Nathan Woodruff of the Oak Ridge Operations Office sought the view of the Committee as to expanding the basic radioisotope training courses to universities and colleges in the larger metropolitan areas by assisting them financially in creating facilities whereby they could train persons in the handling of radioactive materials. It was the sense of the Committee that even though the objectives as set forth by Dr. Woodruff seemed to be desirable it was their belief that the present training course programs as now established are adequate.

Free Isotopes

Free Isotopes

The question of broadening the scope of research with free radioactive isotopes, rather than restricting them for use in cancer research was fully discussed. The Committee wished to be placed on record as being in favor of using free radioactive isotopes for all types of research which may be described as fundamental research including chemistry, biology and physics.

Idaho Reactor Test

Idaho Reactor Test

Dr. William F. Bale summarized the preliminary study

that has been made to determine the levels of radioactivity due to fission products which might be tolerated for emergency periods in food and drinking water. Dr. Bale stated that for periods not exceeding a few weeks, water contaminated within certain reasonable limits can be used with very little real hazard, and these levels of contamination are such that they can be measured by monitors using ordinarily available field monitoring instruments. It is expected that these permissible limits of contamination will be made public shortly, following concurrence by experts to whom the study has been submitted.

Idaho Reactor Test Site

Idaho Reactor Test Site

Dr. Walter ^D. Claus and Mr. L. Joe ^Deal brought the Committee up to date on the status of the Idaho Reactor Test Site. They gave an interesting review and stated that the radiation background survey is essentially complete.

Effects of Atomic Weapons

Effects of Atomic Weapons

The Committee was informed by Dr. Max R. Zelle that the two sections in the Effects of Atomic Weapons concerned with genetic effects were completely revised by him and Dr. W. L. Russell of the Oak Ridge National Laboratory, and approved by the Director of the Division of Biology and Medicine. Dr. Zelle stated that the sections as printed were scientifically incorrect and the revised sections express views compatible with the opinion of a committee

of geneticists convened by the Director of the Division of Biology and Madicine last March. The revision was approved by the Commission before it was printed. (An Erratum sheet containing the revised sections was included with the pre-publication and first printed copies.)

FRIDAY AFTERNOON- September 8, 1950

AEC Project Beltsville

AEC Project at Beltsville

A stimulating and instructive program on the project concerning "Soil Management and Crop Production" under the guidance of Dr. F. W. Parker, at the Bureau of Plant Industry, the U. S. Department of Agriculture in Beltsville, Maryland was presented to the Committee on Friday afternoon.

The Committee was interested in the statement that advances made in the knowledge of phosphate fertilizers during the three years through the use of radioisotopes exceeds the information obtained during the preceding fifty years.

The program covered a tour of the new AEC laboratories and greenhouse.

SATURDAY - September 9, 1950

ABCC

Atomic Bomb Casualty Commission

Dr. George Hardie summarized his report on his trip to Japan to survey the activities of the ABCC. Mr. John V. Lannon who visited Japan with Dr. Hardie reported on the administrative controls that are in effect in the operation

of the program in protecting properties and supplies. The committee studied the problems emanating from the report and the discussions and they recommended unanimously that the following statement regarding the program be forwarded to the General Manager for his consideration and transmittal to the President of the National Academy of Science for his guidance in recommending the research program to be followed by the ABCC in Japan.

"The Committee on Biology and Medicine of the Atomic Energy Commission, having heard the reports of the Atomic © Bomb Casualty Commission, notes with satisfaction, the progress made in the various aspects of the study, including the work in genetics, medicine and in the organization of the staff.

"The Committee on Biology and Medicine notes, however, that little progress has been made in screening larger groups of the population. While recognizing the importance of complete physical examinations and the various laboratory studies, the Committee feels that it should re-emphasize its desire for the screening of larger numbers of the population with a view to discovering early any acute changes in the hemotopoietic and other systems.

"At a joint meeting of Committees from the Division of Biology and Medicine of the AEC, and the National Research Council on February 4, 1950, it was agreed that more

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emphasis should be placed upon the screening process and that more careful studies be carried out upon these groups, discovered by the screening operation, to have abnormalities."

Mr. Gordon Dean, Chairman, AEC

Mr. Gordon Dean, Chairman, AEC

Mr. Gordon Dean, Chairman of the AEC, greeted the Committee and extended his appreciation and the appreciation of the Commission to the Committee for their continued interest and assistance to the Director of the Division of Biology and Medicine as well as to the AEC. Mr. Dean informed the Committee that even with the emphasis to be placed on the military program he was hopeful that the Commission would not have to curtail either the biological and medical research work or the physical research work and that he would like to see the programs move forward as proposed.

Mr. Dean expressed concern over the Civil Defense program and of the desire of the Commission to lend the NSRB every assistance even though the program is the responsibility of the NSRB.

Civil Defense

Civil Defense

Mr. Harry L. Bowman reviewed the status of the Civil Defense program including monitoring, training courses and the AEC building site survey. He stated that five courses have been completed in the training of monitors in radiation detection. Likewise, 18 emergency monitoring teams have been set up with AEC employees or contractor employees throughout the country who will be available in any sort of an incident.

Maps have been secured of the 197 cities in the country that have populations in excess of 50,000. These maps have been sent to the teams in their respective areas should occasion arise wherein the teams would have need for them in entering a strange locality if a catastrophe should occur.

Mr. John A. Perry discussed the radiation detection instruments and said that at the present time there was not a low-priced radiation detection instrument on the market. However, it is anticipated that by February 1951 several such instruments will be available and if proven satisfactory they will be ready for mass production.

The Committee was keenly interested in the interim defense plans for certain key areas and they will look forward to the report on the trial exercises to be held in Chicago on hypothetical problems. In connection with this discussion on civilian defense, Dr. Stakman remarked that he believed the ACEM should be commended because of the fact that they in several instances have placed themselves on record urging that preparations be made for civil defense planning.

Dr. Warren stated that the AMA had been very active in the planning program and they have organized groups for assistance down to each county medical society. The American Red Cross is also very active andis revising its first aid manual with a directive for first aid in a major type of disaster.

Recess

Recess

The Committee adjourned for lunch at 12:30 p.m. and reconvened in Executive Session at 1:30 p.m.

Human Experimentation Human Experimentation

A full discussion was held once again on the problem of human experimentation. The Committee felt that human experimentation at the present time is not indicated, that it would have serious repercussions from a public relations standpoint if undertaken by an agency that has to do a portion of its work in secret; and that adequate data can be obtained from animal experimentation, from the Los Alamos accidents, from certain observations which have been made by clinical radiologists, and from the studies at Hiroshima and Nagasaki.

The Committee endorsed the action of the Director of Division of Biology and Medicine in not concurring in a program for human experimentation.

END OF EXECUTIVE SESSION 3:40 p.m.

Fifth Inter national Cancer Congress, Paris France

Sixth International Congress of Radiology Fifth International Cancer Congress and Sixth International Congress of Radiology

Dr. Warren reported on his trip to Europe to attend the Fifth International Cancer Congress in Paris and the Sixth International Congress of Radiology in London. He stated that from the standpoint of science the cancer congress was disappointing. Dr. Warren was of the opinion that feeble work in cancer research is being done on the Continent with

the exception of Scandanavia. The radiological Congress in London was well organized. The AEC representations made a creditable presentation of their papers in the radiobiology field.

Dr. Warren was impressed with the work being done at the British Atomic Energy project and he stated that their experience and opinion with relation to permissible dose levels are running closely parallel to those of the AEC.

Budget 1951 & 1952 Budget - FY 1951 & FY 1952

Mr. Derry led a brief discussion on the budgets for FY 1951 and 1952 and provided the Committee with a current statement which summarized the program of the Division of Biology and Medicine. He further explained the overall defense that was made to the Bureau of Budget to justify the budget estimates and how the cutbacks, if any, will be applied.

Research Program

Research Program

A full discussion was held on the overall research program of the Division of Biology and Medicine as it relates to cutbacks in the budget estimates. It was the sense of the Committee that knowledge essential to the applied and developmental program be not curtailed and that our developmental program should be additive to the acquisition of fundamental knowledge rather than a substitute.

A formal statement drawn by Dr. Bronk and approved by the whole committee which will set forth reasons why the research programs of the Division of Biology and Medicine should be strengthened rather than curtailed during the international crises will be forwarded to the Commission for their consideration.

National Service Status of Scientific Personnel

National Service Status of Scientific Personnel

Dr. Tuttle explained to the Committee the proposed changes in the Selective Service Act and led a discussion on the proposed National Service Status for persons in critically needed skill categories. Deferment of essential scientific personnel was considered of primary importance. In connection with these discussions and upon a motion by Dr. Stakman and seconded by Dr. Bronk the Committee approved unanimously that scientific personnel who accept positions with the Division of Biology and Medicine be encouraged to continue their research activities within the laboratories or universities that are in close proximity to the AEC.

Fellowship Program

Fellowship Program

Dr. Bronk advised the Committee that at the instance of Dr. Pitzer the NRC was once again considering the question of resuming the responsibility for administering the fellowship program. The Committee was in full agreement and expressed themselves as being in favor of the NRC again assuming full responsibility for the program.

Public Education

Survey Paper re Psychological Project

Mr. Derry reported that the public education survey as sponsored by the AEC is now being made by the University of Michigan. It got underway about August 1, 1950 and interviews will be completed sometime in October and final results made by January 1, 1951.

Los Alamos Accidents

Los Alamos Accidents

Dr. Warren asked the views of the Committee as to whether the reports made on the accident cases at Los Alamos should be released for publication. The Committee discussed the worthiness of publishing these reports in the open scientific literature and they were unanimous in their opinions that these reports should be published.

Dr. N. Edward Tolbert

Dr. Warren introduced Dr. Tolbert as a new member of the staff of the Biology Branch of the Division of Biology and Medicine.

Dr. A. H. Holland, Jr.

Dr. Warren advised the Committee of the resignation of Dr. Albert H. Holland, Jr., as Medical Advisor of the OROO.

Next Meeting Next Meeting

The next meeting of the ACBM will be held on Friday and Saturday, November 10 and 11, 1950 at the Atomic Energy Commission in Washington, D. C.